



CONTROL OF SMALL PREDATORS

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
CIRCULAR 33

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By Bob L. Burkholder, *Mammal Control Supervisor*

Illustrated by Bob Hines

The small flesh-eating mammals, commonly called carnivores, are usually more beneficial than harmful. All have varying degrees of usefulness as fur bearers, game animals, and natural enemies of insects and rodents. At times they may attack poultry and cause other economic losses, but it is a mistake to condemn all members of the group for actions of a few that occasionally interfere with man's interests.

Measures to prevent damage by these animals can be either reductional or protective. Reductional control involves removal of offending animals, by poisons, traps, and gases. Protective control entails less drastic measures to prevent losses—removal of nearby cover to make an area unattractive to predators, or repair of buildings or fences to exclude marauding animals.

Because of the benefits from the small carnivores, control by killing should be limited to the animal doing damage. Selective removal can usually be attained by lethal measures in the immediate vicinity of the damage. Often, preventive control will be more effective and cheaper in the long run, particularly if the operation to be protected is within small, well-defined boundaries.

A fence to discourage predators is often desirable on poultry farms. Although the initial cost is high, this may be offset by savings from reduced predation. An effective fence can be made of stout chicken wire 6 feet high; it should be braced on the inside. A smaller mesh wire must be used to exclude mink and weasels. The wire should extend underground at least 1 foot and then outward 1½ feet, to discourage digging.

In addition, a single-strand electric wire 8 inches above the ground and 8 inches in front of the chicken wire will further repel animals. Weed-killing chemicals should be used to prevent short-circuiting of the charged wire by ground vegetation. For the fence to be completely effective, there should be no tree or brush nearby to help an animal jump over.

If such steps are not practicable, it may be necessary to capture or kill the objectionable predator. State laws usually permit the killing,

without regard to season, of wild animals that damage property, even though they may normally be protected as fur or game species. Since statutes governing the taking of predators vary, it is well to be familiar with the local laws before taking action.

In most cases where reductional control is called for, trapping is the easiest and most effective method. The small animals most likely to be pests, and trapping procedures for capturing them, are described here.

RACCOON



Raccoons are found in most sections of the United States and southern Canada, and are variously classified as fur bearers or game animals. They are omnivorous—they eat both animal and vegetable foods. Because of their fondness for sweet corn in the milk stage, they may at times severely damage cornfields. In southern States, they also feed on avocados, peaches, and citrus fruit. Predation on muskrat colonies and sea-turtle eggs sometimes occurs. In northern States the animals hibernate, or “den-up,” in cold weather.

KILLING HABITS

Raccoons sometimes prey on poultry, and occasionally kill lambs or other small farm animals. They invade farm premises after dark, and it is characteristic of them to eat the heads off many chickens in one night.

CONTROL

Raccoons may be trapped with No. 2 steel traps, preferably the coil-spring type. Sets should be made along suspected routes of travel, such as stream banks, near den trees, or in the shallow

riffles of a stream. In making a water set, cover the trap pan with a piece of aluminum foil. Effective baits include fresh fish, sardines, chicken heads, wing feathers, or fresh unshucked corn.

OPOSSUM



The opossum ranges over the eastern two-thirds of the United States and has recently become established in parts of the West. In some sections the animal is hunted for its meat and fur. When food is plentiful, the opossum may limit its range to a few hundred yards; at other times it travels widely. It is omnivorous, and is an adept climber.

KILLING HABITS

In raiding henhouses the opossum usually kills one chicken at a time, often mauling its victim. Eggs will be smashed and messy. Occasionally, damage occurs in cornfields when the corn is in the milk stage.

CONTROL

Opossums are readily taken with No. 1½ or No. 2 steel traps. Sets should be made in natural or artificial openings or shelters, in hollow logs and trees, or at entrances to poultry yards. For bait, use meat, chicken entrails, fish, or moist dogfood.

SKUNK



Skunks range over all of the United States and southern Canada. They eat a wide variety of foods, including insect larvae, small mammals, and eggs. Favored habitat includes semiwooded areas, deserted buildings, and open country near woods. The animals are inactive during periods of extreme cold. Although they are fairly important fur bearers and not generally harmful, their presence near dwellings may be

objectionable because of odors or diggings in lawns. At times they may also transmit rabies to man and domestic animals.

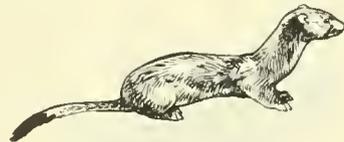
KILLING HABITS

The skunk usually does not climb; its predation is mostly on ground-roosting birds. It kills one bird at a time and mauls the victim considerably. Occasionally a skunk destroys beehives while in search of insects.

CONTROL

Skunks are easily trapped in No. 1 or No. 2 traps. Sets should be made along access routes to the poultry pen and baited with chicken heads, entrails, meat scraps, or a dead mouse. To prevent the animals taking up residence under dwellings, seal all entrance holes in the foundation. If the skunk has already established itself under the house, close all exit holes but one and sprinkle flour at this entrance; when tracks indicate the animal has left for the night, seal this entrance. Another suggested procedure is liberal application of flake naphthalene in the vicinity of the burrows. The animals may be live-trapped in cage-type traps covered with a burlap sack.

WEASEL



Members of the weasel family are found over all the North American continent. They are energetic, ceaseless hunters, and prefer a diet of freshly killed prey. Although the weasel kills many mice and other rodents and therefore is quite beneficial, it does at times destroy poultry.

KILLING HABITS

The weasel bites through the skull, back of the neck, or under the wing of poultry, and may eat only the back of the head and neck. It sometimes kills many birds in one night and places them neatly in a pile.

CONTROL

To trap weasels, set No. 0 or No. 1 steel traps in crannies, brush piles, log piles, or any small covered area. Adjust the pan to "hair trigger" and bait with meat scraps or fresh fish suspended 8 to 10 inches above the trap.

MINK



The mink ranges over most of North America and is a valuable fur bearer. It prefers running water and usually follows stream courses when hunting, but may also make long trips overland. Food items include fish, crustaceans, rodents, and birds.

KILLING HABITS

Like the weasel, the mink may kill more birds in one night than can be utilized, and often eats only the head of its victim.

CONTROL

Minks are wary and difficult to catch, and care must be taken in placing traps. Use No. 1 or No. 1½ steel traps, and set them around log jams, hollow logs, or other natural tunnels, such as where the animals go in and out of the water. Use water sets, dirt-hole sets, or blind sets.

FOX



Foxes are distributed over most of North America, and are equally at home on farmlands, primitive areas, plains, or mountains. Their diet includes small animals, birds, carrion, fruits, and berries. They are variously classified as fur bearers or predators, and may transmit rabies to man and to domestic animals during epidemics of the disease. They usually range within an area about 3 miles across.

KILLING HABITS

The fox will usually take one fowl and depart from the premises, leaving behind only a few drops of blood and feathers. Occasionally it may kill more than one bird, and an attempt will be made to carry them away. The animal can climb over a wire fence of considerable height.

CONTROL

Care should be taken when trapping for foxes, as they detect and avoid poorly placed traps. Use No. 2 steel traps, preferably the coil-spring type, and make sets along known routes of travel such as trails, ridges, or fence rows, or where the fox enters the poultry yard. Blind sets, water sets, and dirt-hole sets are all effective.

RATS



While rats are not classified as carnivores, they are ruthless killers of domestic poultry and wild birds. These rodents often live in open fields the year around, particularly in coastal regions and the southern States. Their attacks on poultry and their destruction of eggs are often erroneously blamed on other wild animals.

KILLING HABITS

Rats kill adult birds by slitting the throat, and may take both eggs and young chicks from a setting hen without disturbing her. They usually carry their prey to secluded spots, often piling the victims in a corner or dragging them into burrows. Although both rats and weasels may kill wantonly and leave their victims in a pile, the rat usually feeds on more of the carcasses than does the weasel.

CONTROL

Rats that prey on poultry are hard to kill with poison bait if they have acquired a preference for warm blood, and such animals may have to be trapped. Use steel or snap traps baited with bloody meat scraps, or placed without bait in rat runways. When making a runway set, enlarge the trigger with a piece of cardboard, and place the trap so that the enlarged trigger lies across the route of travel. Since rats prefer to run along walls or behind objects, these are excellent sites. Traps may be nailed in place along sills, header boards, rafters, or other locations where rats climb. After predation has been stopped, the remaining rats can best be controlled with poison.

FERAL DOGS AND CATS



Like native wild animals, stray dogs and cats occasionally become predators. When infected, they transmit rabies. They can be fenced out as easily as wild animals, but killing them may not be as simple. Some dogs and cats apparently are homeless until after they are killed; then the owner may identify himself, sometimes with a warrant. Before taking drastic action, one should be familiar with the local statutes concerning stray pets.

KILLING HABITS

The feral dog usually kills wantonly and may leave the victims on the premises. With poultry, many loose feathers are often in evidence. Sheep are sometimes literally chased to death and die from exhaustion rather than from wounds.

Predation by house cats is largely confined to young birds, particularly baby chicks. The victims are carried away and consumed in a sheltered location.

CONTROL

Cats and dogs can be taken in steel traps without injury by wrapping the trap jaws with several layers of cloth, but box traps may be preferable when it is suspected that the animals belong to a neighbor. With some ingenuity, an arrangement can be devised in which a box falls on the animal, or a door closes behind it, when a bait is moved. These box traps should be baited with meat or fish and set at locations frequented by the animal. Garbage cans, fence rows, or spaces beneath or beside buildings are good sites.

OTHER PREDATORS

In addition to the predation of smaller flesh-eating mammals, predation by larger animals like wolves, coyotes, mountain lions, bears, and bobcats occurs in many parts of the country. On occasion, losses in certain geographical areas may also be caused by badgers, armadillos, and

other less common wild animals. Detailed information and assistance in the control of such wildlife is available from field offices of the Fish and Wildlife Service, and from State conservation agencies.

GENERAL GUIDES TO TRAPPING

Professional trappers employ many types of traps, scents, baits, and techniques, to capture animals. Their selection of equipment and trap sites is based on personal experience and knowledge of animal behavior. While the methods vary in detail, the general procedures followed by many trappers are briefly as follows:

CARE OF TRAPS

Traps should be kept free of rust and in good working condition. Oil should be avoided. Prior to use, they should be thoroughly cleaned and boiled in water solutions of bark from trees such as oak or hemlock. Gloves should be worn in all subsequent handling.

BAITS

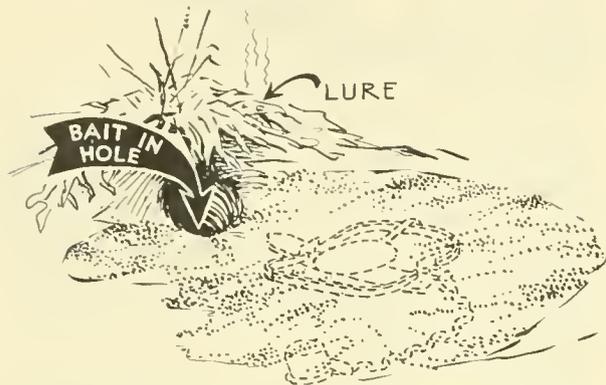
Baits range all the way from carcasses of rodents, such as field mice, to complex, aged, vile-smelling formulations. A simple, easily prepared bait that is attractive to many forms of animals consists of equal parts of lard cracklings, sardines, and dog meal.

DIRT-HOLE SET

The dirt-hole set is especially effective for foxes, raccoons, and minks, and should be made along known routes of travel or in the corner of a clearing where digging is easy. First lay down a "kneeling pad" (a 4- by 4-foot piece of canvas or other durable material) to hold all tools and excess dirt. Then, while kneeling on the pad, dig a slanting hole 6 inches deep and 2 to 3 inches wide, and clear out a bed immediately in front of the hole for the trap. This should be slightly larger than the trap and deep enough to permit it to be placed $\frac{1}{2}$ inch underground.

Drive the trap stake into the ground under the proposed trap site or, if dogs roam the area, substitute a 5- or 6-foot wooden drag and attach the trap chain to it about 18 inches from one end. Place the trap in the depression with the spring in

line with the slanting hole. Be sure there is no debris under the trap pan to prevent its functioning. Place a "trap pad" (a piece of light canvas cut to fit inside the spread jaws) over the pan, and sift fine dirt over the entire trap until it is completely covered.



Make the ground over the trap look as natural as possible; then place the bait in the hole, and remove the ground cloth along with tools and excess dirt. Remember that most animals are critical observers and may become suspicious of unnatural objects.

Traps should be checked in the early morning since most of the animals are active at night. The sets should be visited each day, but should be observed from a distance so as not to disturb the area.

WATER SET

The water set is especially good for mink and raccoon, and should be made in 2 or 3 inches of water along the banks of a stream where the animal is likely to travel. Natural objects such as sticks, stumps, or logs can be so placed as to direct the animal over the trap.

The trap should be set under the surface of the water and covered with debris and leaves from the bottom of the stream, with care being taken to get none of this material under the pan. For raccoons, a bright object like aluminum foil, a clam shell, or a bottle cap wired to the pan will act as an attractant. To avoid leaving signs, the trapper should stand in the water when setting the trap.

An effective water set for foxes can be made by placing bait on a rock or hummock a foot or two out of a stream or lake. The trap is placed midway between the bank and the bait, with the pan barely out of the water and covered with moss or

leaves to resemble a solid object. The fox will use this as a stepping stone to reach the bait.

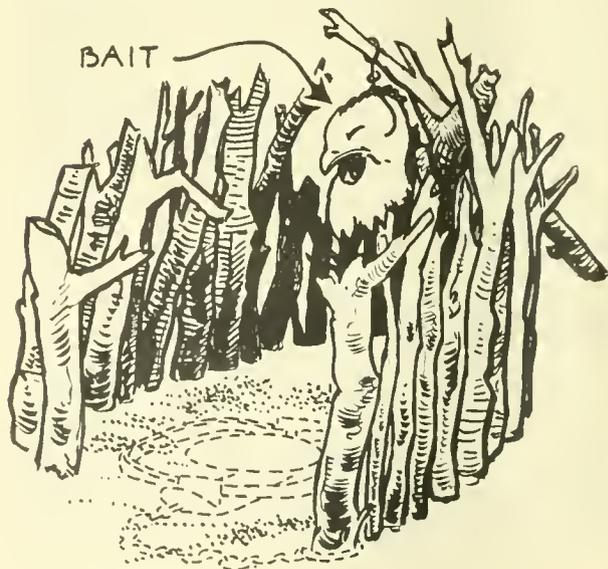
BLIND SET

The blind set depends on the normal travel of the animal, rather than a bait or scent, to bring the animal to the trap. Sets should be made in natural travel routes, such as trails, openings in the brush, or holes in fences, or at the end of hollow logs. The trap is placed in the ground, as in the dirt-hole set, and its success depends upon careful selection of the site and good concealment.

A blind set can be made more effective by placing a stick in front of the trap and one behind it, to break the animal's stride and cause it to step on the pan. The distance from the stick to the trap depends on the stride of the animal to be caught. A pole placed across the trail a foot or two above the set will usually prevent large animals from springing the trap.

CUBBY SET

The cubby set is an old standby of professional trappers, and works well for mink, weasels, raccoons, and other small animals. If covered, it is especially good in winter because the set is protected from snow. Its size should permit easy entry of the animal to be trapped, and it may be built of twigs, old weathered boards, old pieces of drain tile, or small rocks. It should look natural. The best type of cubby is merely a hollowed out place at the base of a brush pile or rock pile, or a brush-covered space between two small logs, or a hollow at the base of a tree.



IDENTIFICATION

Animals can be identified by the signs they leave, such as tracks, droppings, or hair, or by the manner of feeding. Usually one or more of these clues can be found. Good tracks can often be noted by examining areas of sand, dusty trails, or

stream banks across which the animal travels. Sometimes an animal's hair is left as it goes over or under a fence.

The following sketches will help in identifying the tracks of animals.



DOG



FOX



RAT



WEASEL



FRONT

SKUNK

HIND



FRONT



FRONT

HIND

RACCOON



MINK



CAT



HIND

O'POSSUM



UNITED STATES DEPARTMENT OF THE INTERIOR, Douglas McKay, *Secretary*

FISH AND WILDLIFE SERVICE, John L. Farley, *Director*

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